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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,691	03/19/2004	Harald Portig	2003-0363.02/4670-243	9160

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LEXMARX INTERNATIONAL, INC.
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EXAMINER

JAGAN, MIRELLYS

ART UNIT PAPER NUMBER

2859

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/804,691	Applicant(s) PORTIG ET AL.	
	Examiner Mirellys Jagan	Art Unit 2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 13, 14 and 20-39 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12, 15-17 and 19 is/are rejected.
- 7) ☒ Claim(s) 11 and 18 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/19/04</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-12, 15-19, 20-32, and 35-39, drawn to an image forming apparatus, classified in class 399, subclass 110.
 - II. Claims 13, 14, 33, and 34, drawn to a method of controlling the force exerted on a cartridge unit by an image forming apparatus, classified in class 399, subclass 111.

2. The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the apparatus as claimed can be used to practice another and materially different process, such as exerting a force on identical removable cartridges.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

4. Furthermore, this application contains claims directed to the following patentably distinct species of the claimed invention:

Species 1, as shown in figure 2.

Species 2, as described in paragraph 18, lines 7-10 of the specification.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claim is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

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5. During a telephone conversation with Mr. Edward Green on July 22, 2005 a provisional election was made without traverse to prosecute the invention of Group I, Species 2, claims 1-12 and 15-19. Affirmation of this election must be made by applicant in replying to this Office action. Claims 13, 14, and 20-39 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention and species.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Drawings

7. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the apparatus having a cartridge unit that includes the PC drum, as claimed in claim 11, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure

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must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

8. Claim 7 is objected to because of the following informalities:

In claim 7, there is lack of antecedent basis in the claim for a "pivot point". Appropriate correction is required.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-4, 7-10, 12, 15-17, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 6,535,705 to Asakura et al [hereinafter Asakura].

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Referring to claims 1-4, 7-10, and 12, Asakura discloses an image forming apparatus having a housing and a cartridge unit removably mounted on the housing, the apparatus comprising:

- a pivot member (at pivot pint) fixed to the housing;

- a first arm (130) pivotally mounted in the housing about the pivot member, the arm being in contact with the cartridge unit;

- a second arm (132), the first and second arms contacting the cartridge at opposite ends thereof; and

- a force generating member (spring) mounted in the housing and contacting the arm so as to urge the arm to pivot about the pivot member and press against the cartridge unit;

whereby the force exerted on the cartridge by the arm will vary according to the point of contact between the cartridge unit and the arm; the arm includes a contact member having a longitudinal extent and the cartridge unit contacts the arm along the contact member; the cartridge unit includes a protrusion in the direction of the arm such that contact between the cartridge unit and the arm occurs at the protrusion; the force exerted on the cartridge by the arm will vary according to the position of contact of the protrusion along the contact member; the arm includes a force receiving member, the force receiving member and the contact member extending from the pivot member at a generally right angle; the cartridge (200) includes a developer roller (26) operative to develop a latent image by supplying toner thereto; and the variable force applied to the cartridge unit by the arm contributes to the nip force between the developer roller and a photoconductive drum (32) (see figures 1, 13A, 13B, and 14; column 6,

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lines 45-51; column 6, lines 45-59; column 6, line 66-column 7, line 15; and column 11, lines 40-57).

Referring to claims 15-17 and 19, Asakura discloses an image forming apparatus comprising:

- a housing including two pivot points;

- two arms (130, 132) each pivotally mounted about a different pivot point, and each arm including a force receiving member and a contact member having a longitudinal extent;

- two force generating members each exerting a first force at a position on the force receiving member of a different arm thereby biasing the arm to pivot the arm about the pivot point; and

- at least one removable cartridge unit housing a first roller (26) and having two protrusions (209/210) each of which contacts the contact member of a different arm along the longitudinal extent thereof such that each arm exerts a second force on the cartridge unit through the protrusion;

- wherein the arms and pivot points are disposed in the housing such that the contact members contact the protrusions proximate each end of the cartridge unit in an axial direction of the roller; the magnitude of the second force will vary in response to the relative position of each protrusion along the longitudinal extent of each contacting member; and the second force is a component of the nip force between the first roller and a second roller (32) in the apparatus (see figures 1, 13A, 13B, and 14; column 6, lines 45-51; column 6, lines 45-59; column 6, line 66-column 7, line 15; and column 11, lines 40-57).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asakura.

Asakura discloses an apparatus having all of the limitations of claims 5 and 6, as stated above in paragraph 10, but is silent as to the dimensions of the arms, and the particular force exerted by the by the arm on the cartridge unit relative to the force exerted by the generating member, and therefore does not disclose the force exerted by the arm on the cartridge being from about 45% to about 150% of the force of the force generating member, or the contact member having a length of about 16mm.

However, Asakura does teach that the spring biases the arms against the cartridge with a force sufficient to provide a desired nip between the roller and drum, and that it is beneficial to maintain the nip between the roller and the drum at a proper position in order to obtain high image quality, and thee spring-biased arms of Asakura are arranged such that the proper nip is maintained between the roller and drum (see column 6, line 57-column 7, line 15).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the length of the arms in order to provide a different pressure against the cartridge and thus a different nip between the drum and roll as necessary to maintain a proper nip between the roller and drum, as disclosed by Asakura, in order to obtain a high image quality. Therefore, it would have been obvious to one having ordinary skill in the art at the

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time the invention was made to make the length of about 16mm since this particular length of about 16mm claimed by Applicant is considered to be the “optimum” value of the arm length that a person having ordinary skill in the art at the time the invention was made would have been able to determine using routine experimentation based on the desired accuracy, and since it has been held that discovering an optimum value of a result-effective variable involves only routine skill in the art. See *In re Boesch*, 205 USPQ 215 (CCPA 1980).

In addition, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the force of the arm against the cartridge relative to the force generated by the force generating member in order to also provide a different pressure against the cartridge and thus a different nip between the drum and roll as necessary to maintain a proper nip between the roller and drum, as disclosed by Asakura, in order to obtain a high image quality. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a force from about 45% to about 150% of the force of the force-generating member, since it has been held that, where the general conditions of a claim disclosed in the prior art, discovering the “optimum range”, in this case the optimum force for maintaining the nip, involves only routine skill in the art. See *In re Aller*, 105 USPQ 233 (CCPA 1995).

Allowable Subject Matter

13. Claims 11 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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14. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record does not disclose or suggest the following in combination with the remaining limitations of the claims:

An image forming apparatus, wherein the cartridge unit includes a photoconductive drum carrying a latent image (see claim 11); or wherein the magnitude of the second force is equal to the magnitude of the first force multiplied by the distance from the pivot point to the position of application on force receiving member, divided by the distance from the pivot point to the position of contact between the protrusion and contact member (see claim 18).

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents disclose biasing arms for a cartridge of an image-forming device:

U.S. Patent 6,253,046 to Horrall et al

U.S. Patent 6,201,938 to Hollar et al

U.S. Patent 5,486,898 to Fujii et al

U.S. Patent 6,397,026 to Buxton et al

U.S. Patent 5,095,335 to Watanabe et al

U.S. Patent 5,136,333 to Craft et al

U.S. Patent 5,794,103 to Oh


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16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mirellys Jagan whose telephone number is 571-272-2247. The examiner can normally be reached on Monday-Friday from 11AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJ
August 5, 2005



Mirellys Jagan
Patent Examiner
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